



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,907	01/17/2002	Nobuyoshi Joe Maeji	05796.0008.NPUS00	9099
27194	7590	12/21/2004	EXAMINER	
HOWREY SIMON ARNOLD & WHITE, LLP C/O M.P. DROSOS, DIRECTOR OF IP ADMINISTRATION 2941 FAIRVIEW PK BOX 7 FALLS CHURCH, VA 22042			NUTTER, NATHAN M	
		ART UNIT	PAPER NUMBER	
		1711		

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/052,907	MAEJI ET AL.
	Examiner Nathan M. Nutter	Art Unit 1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 November 0204.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 and 61-168 is/are pending in the application.
- 4a) Of the above claim(s) 1-13, 61-135 and 155-167 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 136-154 and 168 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1104.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Pending Claims

Counsel somehow assumes that "(p)reviously presented claims 136-167 are still pending," which is simply NOT the case. Counsel elected Group II, claims 136-144 in the paper filed 12 April 2004, with traverse. That traversal was answered in the Office Action of 10 May 2004. ONLY claims 136-144 and, now, newly added claim 168 have been examined and are pending.

This application contains claims 1-13, 62-135 and 155-167 drawn to inventions nonelected with traverse in the Response filed 12 April 2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

The objection to claims 145-154 under 37 CFR 1 .75(c) as being in improper form because a multiple dependent claim cannot properly depend from another multiple dependent claim, is hereby expressly withdrawn, in view of the amendments to these claims.

Claim Interpretations

The Specification defines "co-continuous" at page 6 (lines 25-28) as "increasing accessibility via increasing the surface area which, leads to more of the surface area being continuous with the external environment. Such a state is referred to herein as

'co-continuous.'" Further, at page 1 (lines 10 et seq.) the Specification points to the term as "(t)he accessible, i.e. co-continuous, nature of the functional groups." As such, the term "co-continuous," which term this Examiner could not find in any of a number of technical or laic dictionaries, is being interpreted as being "accessible," or "easy to access," as in "easily obtained or reached." The term "architecture," likewise which is not an art-recognized chemical term, has been interpreted as "structure," as in the chemical structure or the arrangement of the constituents.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 136-154 and 168 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Pasic et al.

The reference to Pasic et al teaches essentially what is recited in the instant claims, including the particular substrates employed for the compositions. Note the Abstract and column 1 (line 44) to column 2 (line 67) which teaches the identical concept of the substrate polymers bound covalently with monomers to produce a coated substrate with external functionalities. At column 3 (line 50) to column 4 (line 62) the grafting monomers are disclosed. Note the paragraph bridging column 7 to column 8 for the size limitations, as herein recited and claimed. Finally, note the many Examples and claims of the reference.

Claims 136-154 and 168 are rejected under 35 U.S.C. 102(b) as being anticipated by Chin et al.

The reference to Chin et al, teaches the manufacture of polymer blends that may incorporate graft-copolymers as herein recited and claimed. The reference further teaches the concept of functional groups attached to the graft-copolymer as being available for further reaction, as claimed. Note the Abstract and column 1 (line 23) to column 2 (line 57) wherein the patent teaches the production of coated articles wherein the metal coating plate is produced by reaction of the polymer composite with metal ions. Note the many Examples and the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 136-154 and 168 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rolando et al, newly cited.

The reference to Rolando et al teaches essentially what is recited in the instant claims, including the particular substrates employed for the compositions, except for the particular size limitations of the product. Note the Abstract and column 2 (lines 43-60), column 4 (lines 15-63) which teaches the production of a polymer graft having external functionalities (useful to bind proteins), as herein claimed. Further, note the paragraph bridging column 8 to column 9.

While the reference teaches essentially the same concept, the reference is silent with regard to the particular size limitations as recited in the instant claims. All other parameters being equal, the particular size limitations could only be viewed as a choice based upon particular final usage. A skilled artisan would know what the maximized size limitations would be depending upon final usage. As such, the product of the instant claims appears to be essentially met by the teachings of the reference, and the modification of size limitations would be an obvious choice to an artisan of ordinary skill, absent any showing of unexpected results.

Response to Amendment

Applicants' Response is cast in language that ignores the basic meanings of the terms in which the claims are written, as regards their accepted or reasoned interpretations, as pointed out above. Applicants attempt to employ words in the broad claim recitations outside of their known concepts and attempt to define them in derogation to what is accepted usage for them. Applicants may be their own lexicographers. However, requiring that each reference cited as a bar to patentability against the claims employ identical words is absurd, at best. Applicants' Response assumes that only the terms they employ are suitable, while ignoring the fact that other terms may be interchangeable therewith, or that a broad concept may be shown in a reference that is absent use of any terms that applicants find suitable.

The instant claims 136-144 and 168 are drawn to a "hybrid polymer," not to a process. Counsel's assertion that "(t)he present invention teaches a hybrid polymer that solves a particular problem not addressed (or solved) by the teachings of the prior art references cited by the Examiner," is not accurate since the claims are drawn to a "hybrid polymer" product, per se, and not to any supposed "particular problem" that counsel alleges. The references cited teach grafted polymer structures "that (maintain) the presentation and accessibility of functional groups on (their) surface(s)," as argued by counsel. There is nothing recited in the claims with reference to the alleged requirement of "in a changing external solvent environment," or "the problem of external solvent effects." The references teach essentially what is recited and claimed, those claims being drawn to a polymer composition, not a method that "solves a particular

problem." Nothing is recited in the instant claims that is seen to differentiate over the prior art documents in composition.

With regards to Pasic et al, the reference teaches the manufacture of a structure wherein a material substrate is (a) covalently bonded with a "compound comprising an ethylenically unsaturated double bond," then (b) polymerizing a monomer comprising a reactive or crosslinkable group (functional group) on the surface and thereby providing a primary polymer coating comprising reactive or crosslinkable groups." This reads on claim 136. See column 1 (lines 44 et seq.) of Pasic et al. The recitation that "one or a plurality of grafted polymers (have) a combined thickness of less than 50 microns in pellicular formation" reads on the product of the reference.

With regards to Chin et al, it is pointed out that the terpolymers are grafted onto the elastomer spine, providing external environment access to the functionalities of the terpolymer, as claimed.

With regards to the reference to Rolando et al, it is pointed out that if Rolando et al teach facility of the graft copolymers to react with proteins, nothing else is required to meet the instant claims except for the particular graft thickness. Applicants have failed to show that the graft copolymer would be greater than 50 microns thick. Indeed, such a copolymer would be considered extremely large. The patent teaches essentially the same concept claimed herein, since surely the graft copolymer would meet the requirement for "less than 50 microns."

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan M. Nutter
Primary Examiner
Art Unit 1711

nmm

15 December 2004